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**AUG 20 2003**

**0060486**

03-RCA-0360

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**EDMC**

Addressees:

TRANSMITTAL OF THE DRAFT RESPONSE TO POLICY-LEVEL COMMENTS ON THE FEASIBILITY STUDY FOR THE 200-CW-1 AND 200-CW-3 OPERABLE UNITS AND THE 200 NORTH AREA WASTE SITES, DOE/RL-2002-69, DRAFT A, AND THE PROPOSED PLAN FOR THE 200-CW-1 AND 200-CW-3 OPERABLE UNITS AND THE 200 NORTH AREA WASTE SITES, DOE/RL-2003-06, DRAFT A

The Feasibility Study For the 200-CW-1 and 200-CW-3 Operable Units and the 200 North Area Waste Sites, DOE/RL-2002-69, Draft A, and the Proposed Plan For the 200-CW-1 and 200-CW-3 Operable Units and the 200 North Area Waste Sites, DOE/RL-2003-06, Draft A, were sent to the U.S. Environmental Protection Agency (EPA) and the State of Washington Department of Ecology (Ecology) on March 31, 2003, completing Tri-Party Agreement Milestone M-015-38A. In May 2003, Ecology and EPA notified the U.S. Department of Energy, Richland Operations Office (RL) that they had concerns regarding the Draft A version of the Feasibility Study (FS) and that they would provide policy-level comments to RL instead of the typical technical and editorial-type comments. On June 23, 2003, Ecology and EPA approved RL's request for a 60-day extension to the response to regulator review comments and the submittal of a schedule for providing the revised documents. The 60-day extension allowed the parties time to continue discussion on the policy-level issues and to develop RL's responses. The responses are attached.

As outlined in the Tri-Party Agreement Legal Agreement, Section 9.0, "Documentation and Records," comment resolution and a schedule for updating the documents must be submitted to the parties 30 days following receipt of comments. Until such time as the additional technical and editorial comments are received, RL is unable to provide a schedule for document revision.

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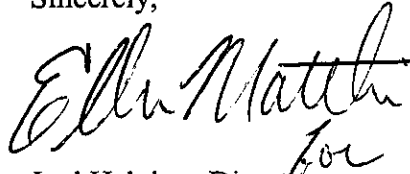
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RL would like to thank both Ecology and EPA for their cooperation in resolving the policy-level comments and appreciates your willingness to continue discussions that will result in progress toward completion and approval of the FS and proposed plan. If you have any questions on the attached Draft Response to Comments document, you may contact me, or your staff may contact Bryan Foley, Waste Management Division, on (509) 376-7087, or Ellen Mattlin, Regulatory Compliance and Analysis Division, on (509) 376-2385.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ellen Mattlin".

Joel Hebdon, Director  
Regulatory Compliance and Analysis Division

RCA:EMM

Attachment

cc w/attach:

D. Bartus, EPA

C. E. Cameron, EPA

L. D. Crass, FHI

R. Gay, CTUIR

J. S. Hertz, FHI

R. Jim, YN

T. M. Martin, HAB

E. J. Murphy-Fitch, FHI

K. Niles, Oregon Energy

J. Price, Ecology

P. Sobotta, NPT

R. F. Stanley, Ecology

Admin Record

**Draft Responses to EPA and Ecology General Comments on 200-CW-1 and 200-CW-3 and  
200 North Feasibility Study and Proposed Plan.**

**August 18, 2003**

1. The approach taken by DOE is not consistent with the National Contingency Plan (NCP) and MTCA which require remedies be employed that reduce the toxicity, mobility, and have a preference for treatment.

***Response: The approach taken in the FS and proposed plan is consistent with the NCP and with relevant and appropriate requirements of WAC 173-340. The approach includes a number of preferred alternatives that were identified for the waste sites, including no action; maintenance of existing soil covers, institutional controls, and natural attenuation; remove and dispose; and simplified soil caps, depending on actual site attributes. Monitored natural attenuation is an acceptable treatment as discussed in EPA's OSWER Directive 9200.4-17P, Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action and Underground Storage Tank Sites. The directive states that "the natural attenuation processes that are at work in such a remediation approach include a variety of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater." The alternative to maintain existing soil covers, institutional controls, and natural attenuation was only applied to sites that met certain criteria, as noted below. The remove and dispose alternative reduces toxicity, mobility, and volume at the waste site by transferring the contaminants to a waste disposal facility (i.e., ERDF).***

***To provide the public more clarity and understanding, Alternative 2, Maintain the Existing Soil Cover, Institutional Controls, and Natural Attenuation, will be represented as a capping alternative that takes advantage of the presence of and/or augments the existing soil cover. This type of cap will be called a Basic Cap in the FS.***

To quote the feasibility study and accompanying proposed plan, "a major element of the preferred alternatives is to use institutional controls and natural attenuation."

***This alternative uses a combination of a soil cap and natural attenuation to provide protectiveness. The institutional controls are an added element of protection used to help prevent intrusion to the waste. This is true for any capping alternative; institutional controls are a required element if wastes are left in place. Institutional controls are used in the 100 Areas for sites where contamination is left below 15 ft and are common elements of many of the RODs around the state. Risk modeling was done to show the protectiveness of the "maintain the existing soil cover" and "simplified soil cover" alternatives. This land could be used for surface-based recreational and conservation activities in its current configuration, which is consistent with the desired land use in both the CLUP-EIS and the Future Site Uses Working Group document. However, people could be exposed to unacceptable concentrations if they were to dig into the waste. Similarly, deep-rooted plants and deeply burrowing animals may also gain access to the waste and would need to be controlled. This does not imply that the sites would be unvegetated, but rather that selective herbicides or hand removal would be***

*used to control non-native, intrusive plants, such as the Russian thistle. Gable Mountain Pond currently has recovering vegetation but receives annual herbicide application to control the thistle.*

These controls would need to be in place for hundreds of years to even meet an industrial cleanup level. This is absurd. To use institutional controls as the basis for this evaluation renders the feasibility study useless.

*In both the Proposed Plan and Feasibility Study, the longest period where institutional controls would be part of the preferred alternative is 160 years to reach industrial standards at B Pond, which is only 10 years over the 150 years of institutional controls referenced in the Tri-Parties response to HAB advice #132. The reader that provided this comment may have been referring to the 216-B-2-2 Ditch, which was modeled to need about 268 years to reach PRGs if relying on natural attenuation. This would not meet the criteria for using the basic cap and therefore the preferred alternative at the 216-B-2-2 Ditch and its analogous sites is remove and dispose which does not have long-term institutional control requirements. Natural attenuation is a very effective method of reducing the contaminants at these waste sites. Cesium-137 and strontium-90 both have about 30 year half lives. The decay of these radionuclides is a well-understood process and the time to meet PRGs can be readily calculated with certainty. For most of the waste sites, the time frame to meet PRGs was based on maximum concentrations. The actual time to reach protective levels is likely much shorter, but the document was prepared using a conservative approach. The premise of the FS is that sites that do not pose a risk to groundwater, that have an existing soil cover, and that have contaminants that decay within 150 years could be effectively addressed by Alternative 2, Maintenance of Existing Soil Cover, Institutional Controls, and Natural Attenuation, which will now be the basic soil cap alternative. Institutional controls are a significant part of any cap, and under certain circumstances, could be in place for hundreds of years. For this FS, if the site contamination characteristics did not meet the above criteria, then this alternative was not selected as the preferred alternative.*

2. The feasibility study does not comply with the NCP requirement to perform environmental evaluations of threats to sensitive habitats. The habitat of "new to science" species on Gable Mountain should be considered sensitive habitat.

*Response: We agree that the NCP requires an evaluation of threats to sensitive habitats; however, no sensitive habitats are believed to exist in the areas of the waste sites. The FS identifies, and incorporates through reference to the Central Plateau Ecological Evaluation Report, Draft B, the new-to-science species. The status of these species has not been determined; however, they were generally found confined to the top of Gable Mountain and Umtanum Ridge, a very significant distance from the waste sites, or to shrub/steppe habitat in the vicinity of water, also not near the waste sites. The closest waste site to these areas would be the former Gable Mountain Pond, which no longer contains water and has been backfilled and stabilized with a thick soil cap. The waste at Gable Mountain Pond is at least 3 ft and as much as 13 ft below ground surface. Contamination at the edges of the pond is the closest to the surface, but also has the lowest concentrations. The deeper parts of the pond are 10 or*

*more feet deep in most places. The shallowest cesium-137 concentration that exceeds the PRG of 20 pCi/g for ecological receptors is 6 to 7 ft (see data tables in Appendix A of the RI Report).*

*Additional work on identifying potential new-to-science species, including site walkdowns with the scientist who originally found the new-to-science insects, will be conducted and the results will be included in the revised FS. Information from the 200 Area ecological DQO will also be included as available.*

3. USDOE used a site specific feeding guild without prior consultation and approval by Ecology. The site specific guild generated soil cleanup levels higher than those specified in WAC-173-340-900.

*Response: The guild has been presented to Ecology through the Central Plateau Ecological Evaluation Report, Draft B, and through 100 Area ecological work. As requested by the regulators and defined in the Central Plateau Ecological Evaluation Report, the ecological risk assessment was conducted in accordance with the EPA 8-step process. Contaminant concentrations were screened against the Ecological Indicator Soil Concentrations (which, as stated in the regulations, are not cleanup levels) identified in WAC 173-340-900, Table 749-3. Contaminants that exceeded the screening level were evaluated further through the baseline ecological risk assessment in accordance with EPA guidance.*

4. Readability- The proposed plan is not written for ease of public understanding. The document is laden with jargon and refers to terms that are undefined such as the core zone. After the Tri-Parties come to agreement on the proper remedies, this plan will need to be rewritten so the public has the opportunity to provide meaningful comment.

*Response: The proposed plan will be reviewed for clarity and readability.*

5. Costs- It is not believable that the cost for long-term control is under 16 million dollars. It appears many items such as groundwater monitoring has been shifted to other projects.

*Response: This is an FS cost estimate, describe in CERCLA guidance as having an accuracy of +50 to -30%, designed to provide a comparison between alternatives. In line with CERCLA guidance, the costs are noted as net present worth. Where modeling has indicated the potential for future groundwater impacts (216-B-2-2 Ditch and its analogous waste sites), remove and dispose has been identified as the preferred alternative, thereby eliminating the need for groundwater monitoring. The Gable Mountain Pond does have documented stontium-90 contamination in the groundwater. Historical monitoring has indicated that the plume is not moving. Future groundwater monitoring of this one site will be addressed on an area wide basis, making estimation of site-specific groundwater monitoring costs for the FS unreasonable.*

6. Analogous site approach- The proposed plan states that this strategy results in considerable cost savings because investigations can be delayed, which is questionable at best.

Characterization will be required during remedy implementation so cost will occur regardless. In fact, due to inflation, cost will likely increase over time.

**Response:** This is the strategy as identified in the Implementation Plan. Not only can the confirmatory and design sampling be delayed, but also the information from the representative sites can be used to tailor the confirmatory and design sampling to be more specific to the actual contaminants of concern and contaminant distribution, thereby reducing significantly the costs. Post-ROD confirmatory and design sampling can be conducted in a more focused manner with efficiencies gained through implementation on a regional basis, on utilizing other investigation techniques (such as geophysical logging), and by designing the data collection to specific data needs associated with the preferred alternative (see Chapter 8, Table 8-2 of the FS). The Explanation of Significant Differences process would be used to adjust remedial actions, if needed, based on the confirmatory sampling.

It is also not clear why 100 Area sites were not used to compare the 200-CW-3 sites, since contaminants were the result of fuel from the 100 Area reactors.

The 212 Buildings in 200 North Area received the fuel elements from the 100 Areas. These fuel elements were stored in the 200 North Area for 40 to 60 days to allow for the decay of the iodine-131 and other short-lived radionuclides prior to processing in the 200 Area plants. The fuel elements are the same materials processed in the 200 Areas; therefore, the contaminants should be similar to those associated with the 200 Area processes (with the exception of the chemicals added during those processes). The chromium that is such a significant contaminant in the 100 Areas was added to the cooling water in the 100 Areas to prevent problems in the reactors. No evidence of sodium dichromate addition to the 200 North Ponds was found. The existing information on the waste sites in the 200 North Area indicates that little or no contamination is expected and would be bounded by the contamination found at the 216-B-3 Pond. However, the document does require that these sites have mandatory confirmatory sampling to support the selected alternative by investigating the nature, vertical extent, and lateral extent, if needed, of the contamination.

7. The proposed plan appears to misrepresent the values of the public regarding potential future uses of the area. It is EPA and Ecology's position that one of the values of the public is to allow this area to be returned to an unrestricted status as soon as possible. One of the major emphasis points of the recently completed exposure scenario task force was to shrink the 200 Area waste management area to as small of area as possible.

**Response:** While some discussions in the risk framework workshops dealt with the range of land uses, the specific position taken by the Tri-Parties in their response to HAB advice #132 states that "an industrial land-use scenario will set cleanup levels on the Central Plateau." In keeping with the response, other land-use scenarios were evaluated as part of this FS. Most of the waste sites considered in this FS are within the core zone. The B Pond lobes have been clean closed under RCRA and have been investigated for radionuclides as part of the closure process. The data indicate little or no radiological contamination exists presently and would be virtually gone by the assumed 50-year DOE control period. Gable Mountain Pond will

*require some restrictions because of the strontium-90 currently in the groundwater, so unrestricted status at that site is not practicable in the near future.*

*The anticipated land use in the Comprehensive Land-Use Plan Environmental Impact Statement (DOE/EIS-0222-F) for areas outside the core zone is conservation (mining); this is in line with the Future Site Uses Working Group. Conservation implies continued restrictions to protect the ecological and cultural resources of an area.*

8. The feasibility study focuses almost exclusively on the 200-CW-1 operable unit. It appears 200-CW-3 and 200 North sites were added as an afterthought.

*Response: The 200-CW-3 and 200 North Area sites were added to the document through the Tri-Party Agreement negotiations of 2002. The waste sites were handled in the same fashion as the other analogous sites in the FS. The FS notes however, that while the decision is based on the best available information at the time, confirmatory sampling will be needed to confirm selection of the appropriate remedial alternative. The existing information indicates minimal contamination at the 200-CW-3 waste sites. One of the 200 North Area waste sites, 200-N-3, was never used as a waste site. This site is a gravel pit that had been proposed for rejection through the WIDS process. Similarly, the three septic tanks in the 200 North serviced the guard shacks for the N, P, and R buildings. They have been proposed to be classified under the unit category of "septic," which would be closed under Washington State Department of Health authority, not CERCLA. However, this change did not occur prior to the issuance of the FS. This change was delayed pending the issuance of the revised Appendix C to the Tri-Party Agreement. This change is expected to occur in the near future and these sites may be removed from the FS at that time. In addition, the tanks have been filled with sand. A fifth site in 200 North Area, UPR-200-N-2, is a valve box for a raw water line. A historical survey identified some radiological contamination and the site was marked as a surface contamination area. Subsequent surveys have not identified radiation. All the no action sites were identified for verification sampling to verify the no action status in the FS.*

*The FS will be revised to include additional information on the 200 North Area sites and a site-specific estimate of these sites in relation to the CERCLA criteria and the uncertainties associated with land use in this area. The preferred alternative for these sites will be changed to remove and disposed because they are relatively small sites, they are in an area of uncertain land use, and several of them have already had a remove and dispose decision.*

9. It is not apparent how DOE can make a recommendation for no action for the 5 North sites when no data is presented in the plans.

*Response: The available existing information is provided in the FS. See Section 6.3.1.1 and Tables 2-4 and 2-6 in the FS. Also see response to comment 8.*

10. It is not clear how institutional controls would be enforced for 268 years (see page 10 of the proposed plan) when a base assumption in the documents is that controls are lost at 150 years.

**Response:** Neither the FS nor the Proposed Plan identify a preferred alternative with more than 160 years of institutional controls (see response to comment #1). Sites that significantly exceeded the 150 years of institutional controls agreed to in the Tri-Parties response to HAB advice #132 do not have Alternative 2 as the preferred alternative. For the 216-B-2-2 Ditch (which you are referring to in the comment and which would require about 268 years to decay to PRGs) and its analogous waste sites, the preferred alternative is removal and disposal.

11. The ARARS table needs to be redone. The table should specify whether a requirement is applicable or relevant and appropriate instead of just saying ARAR.

**Response:** In general, this is specified in the "Justification" column (column 4) of the ARARs tables and represents DOE's recommendation on potential ARARs. Final ARARs will be specified in the ROD that is approved by the EPA. The tables will be reviewed to ensure the distinction between applicable and relevant and appropriate is included for all citations.

12. Exclusion of West Lake from the proposed action is not appropriate and is inconsistent with USDOE's concept of area closures. West Lake has historically been used by Native Americans and will require careful application of tribal exposure scenarios.

**Response:** A more detailed look at the hydrologic and other site characteristics will be made of West Lake. If warranted by this additional information, potential remedial actions will be developed. Site-specific contaminant distribution and conceptual site models will also be developed because West Lake is very different from any of the other sites in the 200 Area. West Lake never intentionally received waste. The contamination is associated with contaminated groundwater moving up from the 200 Areas. Therefore, the waste site does not fit the conceptual model for the 200-CW-1 sites. Until the contaminated groundwater is no longer impacting West Lake, any potentially contaminated sediments could not be effectively remediated.

In addition, USDOE may want to consider adding buildings located in the area to the proposed cleanup in order to further the area closure concept.

As currently planned, the DOE will decontaminate and decommission the buildings. Residual contamination in the soils beneath and around the building will be transitioned to the CERCLA process for the appropriate operable unit. This will likely be done through the ESD process after the buildings have been removed and the soils are available for assessment. The range of remedial alternatives identified in the FS adequately covers the potential remedial actions associated with residual contamination beneath the buildings.